Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1 - 12 (canceled)

13. (currently amended) A plasma processing method for providing a plasma processing to an object to be processed disposed within a vacuum processing chamber, comprising a vacuum processing chamber; a process gas feeding device for feeding process gas into the vacuum processing chamber; a wafer electrode placed within the vacuum processing chamber for mounting the object to be processed; a wafer bias power generator for applying self-bias voltage to the wafer electrode; and a plasma generating means for generating plasma within the vacuum processing chamber; wherein

the plasma processing method flattens a voltage waveform of a high frequency voltage supplied by the wafer bias power generator to a voltage that varies in an inclined manner with time and flattens either a positive side voltage or a negative side voltage of ~~a~~ the voltage waveform ~~of a high frequency voltage generated to the object~~ at an arbitrary voltage.

14. (currently amended) A plasma processing method for providing a plasma processing to an object to be processed disposed within a vacuum processing chamber, comprising a vacuum processing chamber; a process gas feeding device for feeding process gas into the vacuum processing chamber; a wafer electrode

placed within the vacuum processing chamber for mounting the object to be processed; a wafer bias power generator for applying self-bias voltage to the wafer electrode; and a plasma generating means for generating plasma within the vacuum processing chamber; wherein

the plasma processing method clips at least either a positive side voltage or a negative side voltage of a high frequency voltage of the wafer bias power generator to a predetermined voltage by using means for flattening the high frequency voltage which includes a clip circuit connected to the wafer bias power generator.

15. (currently amended) A plasma processing method for providing a plasma processing to an object to be processed disposed within a vacuum processing chamber, comprising a vacuum processing chamber; a process gas feeding device for applying process gas into the vacuum processing chamber; a wafer electrode placed within the vacuum processing chamber for mounting the object to be processed; a wafer bias power generator for applying self-bias voltage to the wafer electrode; and a plasma generating means for generating plasma within the vacuum processing chamber; wherein

the plasma processing method clips at least either a positive side voltage or a negative side voltage of a high frequency voltage of the wafer bias power generator to a voltage that varies in an inclined manner with time by using means for flattening the high frequency voltage which includes a clip circuit connected to the wafer bias power generator.

16. (currently amended) A plasma processing method according to ~~any one of claims 13 through 15~~ claim 14 or 15, wherein ~~the means for clipping voltage~~ the clip

circuit comprises a diode and a DC voltage unit that are mutually connected in series, controlling the voltage of the DC ~~power supply~~ voltage unit ~~in order to adjust the inclination of the clip voltage that varies~~ so that an absolute volume of the voltage increases with time.

17. (original) A plasma processing method according to any one of claims 13 through 15, wherein the wafer bias power generator is a time modulation high frequency power supply turning on and off at a predetermined duty ratio.

18. (currently amended) A plasma processing method utilizing a plasma processing apparatus comprising a processing chamber to which is connected an evacuator for depressurizing the interior of the processing chamber; a plasma generating means for generating plasma within the processing chamber; a means for applying high frequency voltage to an object to be processed; and a gas feeding device for feeding gas into the processing chamber; wherein

the plasma processing method flattens a rectangular voltage waveform of a high frequency voltage to a voltage that varies in an inclined manner with time for at least one of a positive side voltage and a negative side voltage and applies the high frequency voltage with a predetermined duty ratio to the object to be processed so that a high frequency voltage waveform generated at the object is substantially rectangular.

19. (original) A plasma processing method according to claim 18, wherein the duty ratio of the rectangular high frequency voltage is varied according to the processing conditions of the object to be processed.

20. (original) A plasma processing method according to any one of claims 13 through 15 or claim 18, wherein a sensor outputting a value related to the voltage generated to the object to be processed is used to flatten the voltage waveform of the object.

21. (new) A plasma processing method according to any one of claims 14 and 15, where the high frequency voltage of the wafer bias power generator has a sine wave voltage waveform.

22. (new) A plasma processing method according to claim 13, wherein the voltage waveform of the high frequency voltage supplied by the wafer bias power generator is a sine wave voltage waveform which is flattened by means for flattening either a positive side voltage of a negative side voltage of the sine wave voltage waveform and which includes a clip circuit connected to the wafer bias power generator.

23. (new) A plasma processing method according to claim 18, wherein the rectangular voltage waveform of the high frequency voltage is flattened at both the positive side voltage and the negative side voltage thereof so as to provide a voltage that varies in an inclined manner with time.

24. (new) A plasma processing method according to claim 23, wherein the rectangular voltage waveform of the high frequency voltage supplied by the means for applying high frequency voltage is flattened by a waveform controller so as to

provide a voltage that varies in an inclined manner with time for both the positive side voltage and the negative side voltage.